

Two asphalt test specimens after exposure to accelerated weathering conditions show distribution of weathering configurations. Both samples were made 0.002 in. thick. Specimen A was exposed to an 1,100-hr weathering cycle involving both light and water; specimen B was exposed to 100 hr of light only. Weathering configuration reveals that coating is sufficiently uniform over the entire area to exhibit a uniform pattern of deterioration.

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The 4-in. aluminum disk test panel is prepared for coating by rubbing with fine steel wool saturated with water to provide a mat surface. It is then washed with mineral spirits, dried, and weighed. A screw through a hole in the center of the disk holds it firmly to the motor shaft.

For uniform films, occluded air is removed from the asphalt by heating until fluid and placing under a vacuum for several minutes. This cycle is repeated until there is no evidence of foaming immediately after the material is placed in the vacuum.

To prepare an asphalt film, the aluminum disk is first fastened to the motor shaft and centered to be free of vibration. The disk is then heated, while rotating, by the ring burner to about 200° to 220° F. The flame is extinguished, and molten asphalt is poured onto the rapidly spinning disk, starting near the center and working toward the edge. As soon as the spinning disk is completely covered, it is stopped and removed from the motor shaft.

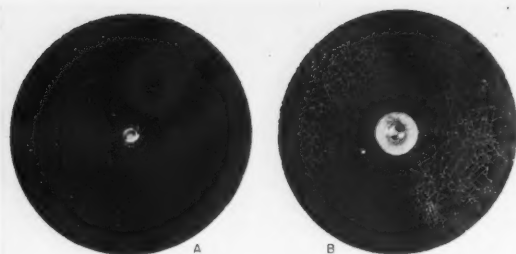
Coating thickness is determined indirectly from the weight, density, and area of the asphalt coating. The thickness of the coating depends mainly on the speed of the disk and the consistency of the molten asphalt. Usually only a few trial panels are sufficient to determine the working tolerances of speed and temperature. Once these are determined, the process is easily repeated to produce many panels with coatings varying in thickness by small increments. Results of accelerated weathering tests on panels prepared by the spinning method reveal that the coating is sufficiently uniform over the entire area to exhibit a uniform pattern of deterioration.

¹Preparation of thin bituminous films by spinning. L. R. Kleinschmidt, *ASTM Bulletin No. 193*, 53 (October 1953).

²Some physical properties of paints. P. H. Walker and J. G. Thompson. *Proc. Am. Soc. Testing Materials*, **22**, Pt. II, 464 (1922).

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Publications of the National Bureau of Standards

Journal of Research of the National Bureau of Standards, volume 55, No. 5, November 1955 (RP2626 to RP2632 incl.). Annual subscription \$4.00.

Technical News Bulletin, volume 39, No. 11, November 1955. 10 cents. Annual subscription \$1.00.

Basic Radio Propagation Predictions for February 1955. Three months in advance. CRPL-D 134. Issued November 1955. 10 cents. Annual subscription \$1.00.

Research Papers

Journal of Research, volume 55, number 5, November 1955. Single copies of the Journal vary in price. Single copies of Research Papers appearing in the Journal are not available for sale. The Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., will reprint 100 or more copies of a Research Paper. Request for the purchase price should be mailed promptly to that office.